

April 22, 1986

## CONGRESSIONAL RECORD — SENATE

S 4633

these later tragedies. As it were, the lesson was ignored the world remained indifferent and silent to the plight of the Armenians and, as a consequence, other millions paid with their lives.

Today, when we remember the 1.5 million Armenian victims, we have to rededicate ourselves to assuring that genocide will disappear as a tool of statecraft even for the most extreme regimes. Let us remember, for instance, that our responsibility with respect to the Genocide Convention has not been discharged yet. The enacting of the implementing legislation is still ahead of us. To go ahead speedily with that task would pay a more meaningful tribute to the memory of the victims of past genocides than the most eloquent speeches we may deliver here today.

Mr. LEVIN. Mr. President, I suggest the absence of a quorum.

The PRESIDING OFFICER. The clerk will call the roll.

The legislative clerk proceeded to call the roll.

Mr. PROXMIRE. Mr. President, I ask unanimous consent that the order for the quorum call be rescinded.

The PRESIDING OFFICER. Without objection, it is so ordered.

#### RECOGNITION OF SENATOR PROXMIRE

The PRESIDING OFFICER. Under the previous order, the Senator from Wisconsin [Mr. PROXMIRE] is recognized for not to exceed 5 minutes.

#### WHY THE COST OF BUILDING STAR WARS WILL EXCEED A TRILLION—TOTAL COST TWO TRILLION, PLUS

Mr. PROXMIRE. Mr. President, what will it cost the United States to build the strategic defense initiative [SDI] or star wars? Now, notice Mr. President, I do not ask how much this country must spend to transport this hardware into space. I do not include in this speech the cost of maintaining the star wars system once we have it fully deployed. In this speech I include nothing for modernizing star wars to keep it ahead of the inevitable advance of Soviet offensive nuclear weapons. I include nothing for the cost of research on star wars.

That research is just beginning. It is expanding very rapidly. It has, in fact, tripled in the last 3 years. It will quadruple in 1987 if the administration has its way. It is expected to reach \$50 billion before deployment gets underway. And, of course, it must go on, probably at an increasing pace even after the system is deployed, if we are to keep star wars modernized and effective. But for the purposes of this speech I am ignoring the cost of research, the cost of transporting the hardware into space, the cost of maintenance of the system in space, and the cost of modernizing and constantly improving the star wars deployment. For purposes of

this speech I am talking only and exclusively about the cost of building the hardware.

In this speech, of course, I am not using classified material. My estimates are strictly estimates, not official data. They are based on commonsense, educated guesses. I have discussed these costs with highly competent and informed persons. These persons disagree among themselves about the precise cost of each of these weapons or sensors. In each case I have tried to arrive at reasonable estimates by approximating a median or consensus among the differing experts. The estimates are strictly unofficial, and unclassified. They are probably at least as accurate as classified estimates because they come from independent scientists who have no ax to grind, and no special contract interest to serve.

Of all the weapons we need for star wars, the space-based kinetic kill vehicle will be the most costly. These vehicles provide the firepower heart of the antimissile defense. They are not uniform. They vary in size and capability. They also vary in cost. In general the cost would average about \$900 million more or less per vehicle; that is, for each of them. How many do we need? Probably thousands. Two thousand would cost \$1 trillion. Why do we need so many. We need them because each vehicle can only fire during a very limited fraction of its Earth orbit. That orbit must be relatively low so that it can be near enough to its target to initiate an effective strike. Because each vehicle has such a limited effective firing period and because the system must maintain the capacity to strike the adversary targets at all times we will need 2,000, 3,000, or 4,000. Why the huge cost? Because each must be hardened—able to stand a hit from the adversary. They must be maneuverable to avoid hostile fire. They should be capable of firing back to fend off concentrated attack.

While the space-based kinetic kill vehicle is the fundamental crux of the system, it cannot function effectively without the following supplementary weapons or sensors: First, ground-based lasers; cost per sensor, \$2.5 billion; estimated number required, 15; aggregate cost, \$37.5 billion. Second, boost surveillance and tracking systems; cost per sensor, \$750 million; number required, 10; aggregate cost, \$7.5 billion. Third, interactive discrimination lasers or particle beams; cost per weapon, \$1 billion; number required, 10; aggregate cost, \$10 billion. Fourth, space surveillance and tracking system; cost per sensor, \$750 million; aggregate cost, \$56¼ billion. Fifth, endo- and exo-atmospheric interceptor missiles; cost per weapon, \$5 million; number required, 7,500; aggregate cost, \$37.5 billion. Sixth, ground-based terminal imaging radar; cost per sensor, \$250 million; number needed, 12; aggregate cost, \$3 billion. Seventh, airborne optical adjunct planes; cost per weapon, \$200 million; number

needed, 12; aggregate cost, \$2.5 billion. Eighth, battle management center, \$1 billion; number needed, three; aggregate cost, \$3 billion.

Mr. President, that means the total cost of building the hardware excluding, omitting, leaving out research cost, transportation into space cost, maintenance cost and modernization cost will very likely exceed \$1 trillion. The space-based kinetic kill vehicle alone will cost a trillion or more by itself. Additional essential weapons would add, on the basis of the calculations I have made in this speech, an additional \$156.75 billion.

Physics Today has estimated the cost of star wars at roughly \$2 trillion. As I have indicated in other speeches, because of the grossly underestimated cost of transporting this hardware into space and of maintaining and modernizing it, this \$2 trillion estimate is more likely to be an underestimate rather than an overestimate.

Maintaining and modernizing the star wars system once it is in space will, in my judgment, cost between \$200 billion and \$300 billion a year. In other words, it will come close to doubling the cost of our defense.

#### TRIBUTE TO ARMENIAN GENOCIDE VICTIMS

Mr. PROXMIRE. Mr. President today we pay tribute to the 1.5 million Armenians who perished after a systematic persecution and massacre during the period of 1915-23. This year being the 71st anniversary of the Armenian genocide, we recognize this tragedy as one of the darkest episodes in recorded history.

The Armenian persecution began in 1894, when, in the 2-year period leading up to 1896, 300,000 were killed under the reign of the Ottoman Sultan Abdul Hamid II. Thirteen years later, another 21,000 Armenians were massacred in Cilicia, Turkey.

While the preceding events seemed horrendous in themselves, the most brutal physical destruction of Armenians began in 1915.

Many of the victims were put into labor camps and worked to their death during the Turkish preparation for World War I. The majority, however, died while marching across the Syrian Desert after being denied food and water for days at a time.

Apart from the 1.5 million who perished between 1915 and 1923, another 500,000 refugees escaped north to Russia or fled elsewhere in Europe, the United States, and the Arab countries. The Armenians were, therefore, essentially eliminated from their native homeland.

Many would like to forget that such atrocities ever occurred. We must, however, remember them to deter men such as Hitler, who scoffed at the idea that the extermination of the Armenians would be remembered for what it was—a mass annihilation of innocent

S 4634

## CONGRESSIONAL RECORD — SENATE

April 22, 1986

people. We can thankfully now hold our heads higher knowing that acts such as these will never be accepted nor forgotten while observing our recent ratification of the Genocide Convention.

Mr. President, although I condemn the atrocities that were perpetrated on the Armenian people, I do not endorse or condone any terrorist action against Turkish nationals by Armenian terrorists. Such acts of violence are unacceptable and do nothing to help the cause of the Armenian people.

#### MYTH OF THE DAY: TERRORISM IS NOT A THREAT TO EUROPE

Mr. PROXMIRE. Mr. President, the myth of the day, and this one comes from overseas with many of our allies, is that terrorism is not a threat that warrants military action like what the United States just took against Libya.

Now the European governments, Mr. President, have given us enough excuses to fill up the Mediterranean on why they will not act against Colonel Qadhafi. And when I speak of European governments, I am exempting Prime Minister Thatcher's government in Great Britain, which stood tall with us in fighting Qadhafi.

As I said, Mr. President, the European excuses run all over the map for not striking back at Qadhafi's terrorism. There is the excuse that we have to solve the underlying causes of Middle East discord before we attack terrorism. There is the excuse that fighting the terrorism only breeds more terrorism. There is the excuse that innocent civilians get hurt when you attack terrorists.

Now there is some merit to these excuses and the countless others the Europeans have offered for not striking back at terrorism.

But let us lay it on the line, Mr. President. The real reason European nations like France, Italy, and Germany have so far refused to take military action against Libya and other states that sponsor terrorism is that they do not see this terrorism as being a significant threat to them yet.

Sure, the Italian Government does not like to see passengers in its Rome airport attacked. Sure, the West German Government is not thrilled about Berlin discotheques being blown to bits. And, sure, the French Government is upset over all the car bombings in Paris.

But these governments still do not perceive the terrorist attacks as a significant threat to their security. In other words, it is not a problem as bad as the problem they see in a cutoff of Libyan oil to them or a break in the trade they conduct with Libya. That is the bottom line, Mr. President. The terrorist attacks are not considered enough of a threat to warrant breaking off lucrative economic ties with Libya.

But that bottom line, Mr. President, is a myth.

Terrorism has now become a significant military threat to Europe, and it is time for the European governments to stop operating under the myth that it is not.

It is time for them to realize that any cutoff in Libyan oil would cripple Qadhafi more than it would hurt Europe.

It is time for them to realize that the loss in trade with Libya may well be far outweighed by the loss in tourism to their countries. Just call up any travel agent and you will find out how popular a European vacation or a Mediterranean cruise is at the moment.

It is time for them to realize that the terrorism nations like Libya, Syria, and Iran sponsor does not represent an airport security problem for them. It is not an Interpol problem. It is not an intelligence problem.

It is a military threat. It is a threat to their national security.

And it is a myth to believe otherwise.

#### NUCLEAR WASTE POLICY ACT AMENDMENTS

Mr. PROXMIRE. Mr. President, I am pleased to join with Senator MITCHELL in introducing amendments to the Nuclear Waste Policy Act, terminating the search for a second nuclear waste repository.

Why are we offering this bill? The answer is simple. We do not need a second repository and we never did. No scientific or technical reasons compel the current repository site limit of 70,000 metric tons. Congress enacted this capacity requirement solely for political reasons in order to speed passage of the Nuclear Waste Policy Act in 1982.

The Department of Energy's own most recent projections of the total volume of nuclear waste needing disposal show a steady decline since 1979. Instead of their 1979 projections of 220,000 metric tons of civilian waste by 2020, by 1985, this figure had declined to just 75,000 metric tons using DOE's own "no new orders" option. Defense waste adds just another 10,000 metric tons to the total. This reduction in waste is due to cancellation of large numbers of nuclear powerplants after the accident at Three Mile Island.

Limitations on site capacity are based on the thermal loading qualities of each site. What this means in laymen's terms is that the cooler the waste, the more that can be placed underground in a given area. Heat content of nuclear waste declines rapidly over time so that 10-year-old spent fuel has lost 80 to 90 percent of its heat, with a loss of 30 percent more in the following 30 years. Therefore, any method which allows further cooling increases the capacity of the storage facility.

The Department of Energy has produced no evidence that any of the sites nominated as potential first repositories

cannot safely accommodate at least 100,000 metric tons of nuclear waste.

Equally important, techniques now exist which can significantly reduce the amount of existing nuclear waste. Even if large numbers of new reactors come into service in the next 20 years, these new techniques would still eliminate the need for a second site.

For example, extended burnup of spent fuel, which increases the efficiency of reactor fuel use, can mean waste reductions of between 15 percent and 40 percent depending on the type of nuclear reactor.

Increasing utilities on-site storage facilities through reracking, dry cask storage or building new facilities would reduce storage demands still more.

Unfortunately, under current law, there is no incentive for utilities to spend money on waste reduction. But if we allow DOE to spend its waste funds on demonstrations of new waste-reduction technology, the waste program will save money in the long run by eliminating the second site.

Utilities should also be offered incentives to reduce waste on their own.

Monitored retrievable storage facilities, already authorized under the Nuclear Waste Policy Act, should be used to buy time, extending the life of the first waste facility even further.

Mr. President, obviously if the DOE implements all or even some of these techniques there will be no need for a second site. With cost estimates pegged at \$10 billion and counting, there is no reason to squander further billions on an unnecessary search for an unneeded second site.

#### DEDICATION OF THE NATIONAL FITNESS AND JOGGING CENTER

Mr. PROXMIRE. Mr. President, I would like to call your attention to the National Fitness and Jogging Center at Fourth Street and Independence Avenue SW, which is to be dedicated tomorrow at 11 a.m.

This new facility was donated to the people of the United States by Joseph H. Kanter, a Florida-based banker and jogging enthusiast. On a recent visit to the Capital, Mr. Kanter noticed all the Government workers and visitors jogging on the Mall and wanted to provide a public facility for warm-up, strengthening, and cool-down exercises.

The result is a fully-accessible fitness course with twenty pieces of "Parcourse" fitness equipment for stretching, leg lifts, vaulting, et cetera. It will be a welcome addition for Members, staff, and all the others who jog or walk on the Mall each day.

#### ROUTINE MORNING BUSINESS

The PRESIDING OFFICER. Under the previous order, there will now be a period for the transaction of routine